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1/54

SEQUENCE LISTING

<110> Commonwealth Scientific and Industrial Research Organisation

<120> Genes involved in plant fibre development

<130> 503310

<150> AU 2004901749

<151> 2004-03-31

<150> US 60/558,480

<151> 2004-03-31

<160> 74

<170> PatentIn version 3.1

<210> 1

<211> 624

<212> PRT

<213> Gossypium hirsutum

<400> 1

Val Lys Phe Trp Phe Gln Asn Lys Arg Thr Gln Met Lys Ala Gln His
 1 5 10 15

Glu Arg His Glu Asn Ala Ile Leu Lys Ala Glu Asn Glu Lys Leu Arg
 20 25 30

Ala Glu Asn Asn Arg Tyr Lys Glu Ala Leu Ser Asn Ala Thr Cys Pro
 35 40 45

Ser Cys Gly Gly Pro Ala Ala Leu Gly Glu Met Ser Phe Asp Glu Gln
 50 55 60

His Leu Arg Ile Glu Asn Ala Arg Leu Arg Glu Glu Ile Asp Arg Ile
 65 70 75 80

Ser Gly Ile Ala Ala Lys Tyr Val Gly Lys Pro Leu Ser Ser Leu Pro
 85 90 95

His Leu Ser Ser His Leu His Ser Arg Ser Ala Asp Leu Gly Ala Ser
 100 105 110

Asn Phe Gly Asn Gln Ser Gly Phe Val Gly Glu Met Asp Arg Ser Gly
 115 120 125

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Asp Leu Leu Arg Ser Val Ser Gly Pro Thr Glu Ala Asp Lys Pro Met
 130 135 140

Ile Val Glu Leu Ala Val Ala Ala Met Glu Glu Leu Ile Arg Met Ala
 145 150 155 160

Gln Ser Gly Glu Pro Leu Trp Val Pro Gly Asp Asn Ser Thr Asp Val
 165 170 175

Leu Asn Glu Asp Glu Tyr Leu Arg Thr Phe Pro Arg Gly Ile Gly Pro
 180 185 190

Lys Pro Leu Gly Leu Arg Ser Glu Ala Ser Arg Glu Ser Ala Val Val
 195 200 205

Ile Met Asn His Val Asn Leu Val Glu Ile Leu Met Asp Val Asn Gln
 210 215 220

Trp Ser Ser Val Phe Cys Gly Ile Val Ser Arg Ala Met Thr Leu Glu
 225 230 235 240

Val Leu Ser Thr Gly Val Ala Gly Asn Tyr Asn Gly Ala Leu Gln Val
 245 250 255

Met Thr Ala Glu Phe Gln Val Pro Ser Pro Leu Val Pro Thr Arg Glu
 260 265 270

Asn Tyr Phe Ala Arg Tyr Cys Lys Gln His Ile Asp Gly Thr Trp Ala
 275 280 285

Val Val Asp Val Ser Leu Asp Asn Leu Arg Pro Asn Pro Met Ser Ser
 290 295 300

Val Glu Arg Pro Ser Gly Cys Leu Ile Gln Asn Cys Gln Met Asp Thr
 305 310 315 320

Ser Lys Val Ile Trp Val Glu His Val Glu Val Asp Asp Arg Ala Val
 325 330 335

His Asn Ile Tyr Arg Pro Val Val Asn Ser Gly Leu Ala Phe Gly Ala
 340 345 350

Lys Arg Trp Val Ala Thr Leu Asp Arg Gln Cys Glu Arg Leu Ala Ser

3/54

355		360		365
Ser Met Ala Ser Asn Ile	Pro Ala Gly Gly Leu	Cys Val Ile Thr Ser		
370	375	380		
Pro Glu Gly Arg Lys Ser	Met Leu Lys Leu Ala	Glu Arg Met Val Thr		
385	390	395		400
Ser Phe Cys Thr Gly Val	Gly Ala Ser Thr Ala	His Ala Trp Thr Thr		
	405	410		415
Leu Ser Ala Thr Gly Ser	Asp Asp Val Arg Val	Met Thr Arg Lys Ser		
	420	425		430
Met Asp Asp Pro Gly Arg	Pro Pro Gly Ile Val	Leu Ser Ala Ala Thr		
	435	440		445
Ser Phe Trp Ile Gln Val	Pro Pro Lys Arg Val	Phe Asp Phe Leu Arg		
	450	455		460
Asp Glu Asn Ser Arg Ser	Glu Trp Asp Ile Leu	Ser Asn Gly Gly Leu		
465	470	475		480
Val Gln Glu Met Ala His	Ile Ala Asn Gly Arg	Asp Pro Gly Asn Cys		
	485	490		495
Val Ser Leu Leu Arg Val	Asn Ser Ala Asn Ser	Ser Gln Ser Asn Met		
	500	505		510
Leu Ile Leu Gln Glu Ser	Cys Thr Asp Ala Lys	Gly Ser Tyr Val Ile		
	515	520		525
Tyr Ala Pro Val Asn Ile	Val Ala Met Asn Ile	Val Leu Ser Gly Gly		
	530	535		540
Asp Pro Asp Tyr Val Ala	Leu Leu Pro Ser Gly	Phe Ala Ile Leu Pro		
545	550	555		560
Asp Gly Pro Gly Val Asn	Gly Gly Gly Ile Leu	Glu Ile Gly Ser Gly		
	565	570		575
Gly Ser Leu Leu Thr Val	Ala Phe Gln Ile Leu	Val Asp Ser Val Pro		
	580	585		590

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Thr Ala Lys Leu Ser Leu Gly Ser Val Ala Thr Val Asn Ser Leu Ile
 595 600 605

Lys Cys Thr Val Glu Arg Ile Lys Ala Ala Val Lys Cys Asn Asn Ala
 610 615 620

<210> 2
 <211> 309
 <212> PRT
 <213> Gossypium hirsutum

<400> 2

Met Gly Arg Ser Pro Cys Cys Glu Lys Val Gly Leu Lys Lys Gly Pro
 1 5 10 15

Trp Thr Pro Glu Glu Asp Gln Lys Leu Leu Ala Tyr Ile Glu Gln His
 20 25 30

Gly His Gly Ser Trp Arg Ala Leu Pro Ser Lys Ala Gly Leu Gln Arg
 35 40 45

Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
 50 55 60

Ile Lys Arg Gly Lys Phe Ser Leu Gln Glu Glu Gln Thr Ile Ile Gln
 65 70 75 80

Leu His Ala Leu Leu Gly Asn Arg Trp Ser Ala Ile Ala Thr His Leu
 85 90 95

Pro Lys Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Leu
 100 105 110

Met Lys Arg Leu Thr Lys Met Gly Ile Asp Pro Val Thr His Lys Pro
 115 120 125

Lys Thr Asp Ala Leu Gly Ser Thr Thr Gly Asn Pro Lys Asp Ala Ala
 130 135 140

Asn Leu Ser His Met Ala Gln Trp Glu Ser Ala Arg Leu Glu Ala Glu
 145 150 155 160

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Ala Arg Leu Val Arg Glu Ser Lys Leu Val Pro Ser Asn Pro Pro Gln
 165 170 175

Ser Asn His Phe Thr Ala Val Ala Pro Ser Pro Thr Pro Ala Thr Arg
 180 185 190

Pro Gln Cys Leu Asp Val Leu Lys Ala Trp Gln Gly Val Val Cys Gly
 195 200 205

Leu Phe Thr Phe Asn Met Asp Asn Asn Asn Leu Gln Ser Pro Thr Ser
 210 215 220

Thr Leu Asn Phe Met Glu Asn Thr Thr Thr Leu Pro Met Ser Ser Ser
 225 230 235 240

Ser Ser Val Asn Gly Met Phe Asn Glu Asn Phe Gly Trp Asn Ser Ser
 245 250 255

Ile Asn Pro Cys Glu Ser Gly Asp Asn Leu Lys Val Glu Tyr Gly Ser
 260 265 270

Asp Gln Ile Pro Glu Leu Lys Glu Arg Leu Asp His Pro Met Glu Leu
 275 280 285

His Glu Met Asp Tyr Ser Ser Glu Gly Thr Trp Phe Gln Glu Leu Phe
 290 295 300

Gly Phe Asn Gly Leu
 305

<210> 3
 <211> 150
 <212> PRT
 <213> Gossypium hirsutum

<400> 3

Arg Cys Glu Arg Leu Leu Leu Cys Val Ile Ser Asp Ala Arg Ser Ile
 1 5 10 15

His Tyr Leu Pro Ser Val Leu Ala Thr Ala Thr Met Met His Val Ile
 20 25 30

Asp Gln Val Glu Leu Phe Asn Pro Ile Asp Tyr Gln Asn Gln Leu Leu

6/54

35 40 45
 Ser Val Leu Lys Ile Ser Lys Glu Lys Val Asn Asp Cys Tyr Lys Leu
 50 55 60
 Ile Leu Asp Val Ser Thr Arg Pro Gln Ala Gln Gly Asn Gly Gly Ala
 65 70 75 80
 Cys Lys Arg Lys Val Glu Glu Arg Val Pro Ser Ser Pro Ser Gly Val
 85 90 95
 Ile Asp Ala Ala Phe Gly Ser Asp Ser Ser Ser Asp Ser Trp Gly Thr
 100 105 110
 Val Ser Leu Ser Pro Glu Gln Gln Pro Pro Phe Lys Lys Ser Arg Ala
 115 120 125
 Gln Glu Gln Val Met Arg Leu Pro Ser Leu Asn Arg Val Phe Val Asp
 130 135 140
 Ile Val Gly Ser Pro Ser
 145 150

 <210> 4
 <211> 229
 <212> PRT
 <213> Gossypium hirsutum

 <400> 4
 Met Ala Asn His Thr Val Thr Phe Leu Pro Lys Leu Ser Ile Glu Ala
 1 5 10 15
 Ile Gln Thr Val Thr Pro Met Arg Ile Thr Glu Pro Arg Gln Thr Arg
 20 25 30
 Gln Val Leu Ala Gly Glu Leu Val Gly Pro Gly Ile Phe Gln Arg Cys
 35 40 45
 Leu Asn Val Val Gln Tyr Tyr Met Lys Glu Lys Glu Glu Asp Ser Gly
 50 55 60
 Trp Leu Leu Ala Gly Trp Ile Lys Glu Thr Leu Gly Arg Ala Leu His
 65 70 75 80

7/54

Glu Gln Pro Met Ile Ser Gly Arg Leu Arg Lys Gly Glu Arg Asn Asp
85 90 95

Gly Glu Leu Glu Ile Val Ser Asn Asp Cys Gly Ile Arg Leu Ile Glu
100 105 110

Ala Arg Ile Gln Met Asn Leu Ser Asp Phe Leu Asp Leu Lys Gln Arg
115 120 125

Glu Asp Ala Glu Ala Gln Leu Val Phe Trp Lys Asp Ile Asp Glu Gln
130 135 140

Asn Pro Gln Phe Ser Pro Leu Phe Tyr Val Gln Val Thr Asn Phe Gln
145 150 155 160

Cys Gly Gly Tyr Ser Ile Gly Ile Ser Cys Ser Ile Leu Leu Ala Asp
165 170 175

Leu Leu Leu Met Lys Glu Phe Leu Lys Thr Trp Ala Asp Ile Pro Thr
180 185 190

Arg Leu Leu Ser Thr Lys Thr Met Asn Lys Ser Phe Leu Tyr Ser Thr
195 200 205

Phe Leu Ala Glu Lys His Gln Trp Cys Leu Pro Thr Ser Ser His Gln
210 215 220

Ile Gln Ala Lys Leu
225

<210> 5
<211> 107
<212> PRT
<213> Gossypium hirsutum

<400> 5

Met Ala Lys Tyr Leu Asn Val Val Leu Val Leu Ala Leu Val Val Val
1 5 10 15

Gln Ala Thr Ala Arg Asn Val Pro Ser Asp Ala Ala Gly Leu Asn Asp
20 25 30

Gln Lys Asn Leu Leu Thr Tyr Gly Gly Ile Gly Gly Tyr Ser Gly Met

8/54

35 40 45
 Gly Ser Asn Gly Met Pro Met Gly Gly Val Gly Ser Val Gly Gly Met
 50 55 60
 Thr Gly Leu Gly Gly Thr Gly Gly Met Gly Ala Met Val Gly Val Gly
 65 70 75 80
 Tyr Gly Gly Gly Pro Gly Ala Gly Gly Gly Asn Glu Gly Gly Val Gly
 85 90 95
 Ile Gly Asn Ala Pro Gly Val Val His Phe Pro
 100 105

<210> 6
 <211> 112
 <212> PRT
 <213> Gossypium hirsutum

<400> 6

Ser Ser Asp Ser Arg Lys Pro Leu Ala Ser Phe Tyr Leu Glu Lys Thr
 1 5 10 15
 Lys Lys Leu Leu Leu Cys Trp Thr Cys Ser Cys Phe Phe Ser Leu Tyr
 20 25 30
 Gly Val Val Tyr Gly Leu Tyr Tyr Glu Phe Tyr Met Asn Arg Thr Leu
 35 40 45
 Asn Leu Val Arg Lys Leu Arg Met Ser Leu Gly Gly Ala Glu Val Leu
 50 55 60
 Met Ala Ile Ala Gly Leu Trp Ala Val Val Leu Arg Pro Leu Met Ile
 65 70 75 80
 Arg Tyr Ala Val Glu Met Ser Gln Met Ile Gly Ile Ser Val Arg Arg
 85 90 95
 Phe Phe Ser Asn Pro Leu Ser Pro Ser Val Ser Phe Phe Tyr Trp Tyr
 100 105 110

<210> 7
 <211> 258
 <212> PRT

9/54

<213> Gossypium hirsutum

<400> 7

Met Ala Thr Lys Thr Met Met Leu Gln Ile Phe Pro Leu Phe Phe Phe
 1 5 10 15

Leu Phe Ser Val Cys Asn Ser Ile Phe Leu Gly Ala Asn Gly Asp Asp
 20 25 30

Asn Gly Gly Trp Gln Thr Ala His Ala Thr Phe Tyr Gly Gly Ala Asp
 35 40 45

Ala Thr Gly Thr Met Gly Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser
 50 55 60

Gln Gly Tyr Gly Thr Ser Thr Ala Ala Leu Ser Thr Ala Leu Phe Asn
 65 70 75 80

Asn Gly Leu Ser Cys Gly Ala Cys Tyr Glu Leu Arg Cys Asn Asn Asp
 85 90 95

Pro Gln Trp Cys Ile Ser Arg Thr Ile Thr Val Thr Ala Thr Asn Phe
 100 105 110

Cys Pro Pro Asn Tyr Ala Leu Ser Ser Asp Asn Gly Gly Trp Cys Asn
 115 120 125

Pro Pro Arg Glu His Phe Asp Leu Ala Glu Pro Arg Phe Leu Arg Ile
 130 135 140

Ala Glu Tyr Arg Ala Gly Ile Val Pro Val Met Phe Arg Arg Val Ser
 145 150 155 160

Cys Val Lys Lys Gly Gly Ile Arg Tyr Thr Met Asn Gly His Ser Tyr
 165 170 175

Phe Asn Met Val Leu Ile Thr Lys Leu Gly Gly Ala Gly Asp Ile Thr
 180 185 190

Ser Val Ser Ile Lys Gly Ser Arg Thr Gly Trp Leu Pro Met Ser Arg
 195 200 205

Asn Trp Gly Gln Asn Trp Gln Ser Asn Ala Tyr Leu Asn Gly Gln Ser

10/54

210 215 220
 Leu Ser Phe Lys Val Thr Ala Ser Asp Gly Arg Thr Ile Thr Ala Tyr
 225 230 235 240
 Asn Val Val Pro Ala Gly Trp Gln Phe Gly Gln Thr Phe Glu Gly Gly
 245 250 255
 Gln Phe
 <210> 8
 <211> 190
 <212> PRT
 <213> Gossypium hirsutum
 <400> 8
 Val Pro Phe Tyr Ser Ser Asn Tyr Leu Leu His Glu Ser Cys Met Met
 1 5 10 15
 Met Ile Ala Ser Leu Val Pro Asn Phe Met Met Gly Val Ile Ile Gly
 20 25 30
 Ala Gly Tyr Ile Gly Leu Leu Met Met Thr Ala Gly Tyr Phe Arg Leu
 35 40 45
 Leu Pro Asp Leu Pro Lys Ile Phe Trp Arg Tyr Pro Val Ser Tyr Ile
 50 55 60
 Asn Tyr Gly Ala Trp Ala Leu Gln Gly Ala Tyr Lys Asn Asp Met Val
 65 70 75 80
 Gly Leu Glu Phe Asp Gly Phe Ile Pro Gly Gly Pro Lys Leu Lys Gly
 85 90 95
 Asp Val Val Leu Thr Ser Met Leu Gly Ile His Leu Asp His Ser Lys
 100 105 110
 Trp Trp Asp Leu Ala Ala Val Ile Met Ile Leu Ile Ala Tyr Arg Leu
 115 120 125
 Leu Phe Phe Ile Ile Leu Lys Phe Lys Glu Arg Val Ser Pro Leu Phe
 130 135 140

11/54

Arg Thr Leu Tyr Thr Trp Arg Thr Leu Gln His Met Lys Lys Arg Pro
 145 150 155 160

Ser Phe Arg Lys Thr Ser Ala Phe Pro Ser Lys Arg His Gln Val Leu
 165 170 175

His Ser Leu Ser Ser Gln Glu Gly Leu Asn Ser Pro Ile His
 180 185 190

<210> 9
 <211> 805
 <212> PRT
 <213> Gossypium hirsutum

<400> 9

Met Ala Asn Pro Val Ile Thr Arg Val His Ser Leu Arg Glu Arg Leu
 1 5 10 15

Asp Glu Thr Leu Leu Ala His Arg Asn Glu Ile Leu Ala Leu Leu Ser
 20 25 30

Arg Ile Glu Gly Lys Gly Lys Gly Ile Leu Gln His His Gln Ile Ile
 35 40 45

Leu Glu Phe Glu Ala Ile Pro Glu Glu Asn Arg Lys Lys Leu Ala Asp
 50 55 60

Gly Ala Phe Phe Glu Val Leu Lys Ala Ser Gln Glu Ala Ile Val Leu
 65 70 75 80

Pro Pro Trp Val Ala Leu Ala Val Arg Pro Arg Pro Gly Val Trp Glu
 85 90 95

Tyr Ile Arg Val Asn Val His Ala Leu Val Val Glu Glu Leu Thr Val
 100 105 110

Ala Glu Tyr Leu His Phe Lys Glu Glu Leu Val Asp Gly Ser Ser Asn
 115 120 125

Gly Asn Phe Val Leu Glu Leu Asp Phe Glu Pro Phe Asn Ser Ser Phe
 130 135 140

Pro Arg Pro Thr Leu Ser Lys Ser Val Gly Asn Gly Val Glu Phe Leu

12/54

145		150		155		160
Asn Arg His Leu Ser Ala Lys Leu Phe His Asp Lys Glu Ser Met His						
		165		170		175
Pro Leu Leu Glu Phe Leu Arg Val His Cys His Lys Gly Lys Asn Met						
		180		185		190
Met Leu Asn Asp Arg Ile Gln Asn Leu Asn Ala Leu Gln His Val Leu						
		195		200		205
Arg Lys Ala Glu Glu Tyr Leu Gly Thr Leu Pro Pro Glu Thr Pro Cys						
		210		215		220
Ala Gly Phe Glu His Arg Phe Gln Glu Ile Gly Leu Glu Arg Gly Trp						
		225		230		235
Gly Asp Thr Ala Gln Arg Val Leu Glu Met Ile Gln Leu Leu Leu Asp						
		245		250		255
Leu Leu Glu Ala Pro Asp Pro Cys Thr Leu Glu Lys Phe Leu Gly Arg						
		260		265		270
Ile Pro Met Val Phe Asn Val Val Ile Leu Thr Pro His Gly Tyr Phe						
		275		280		285
Ala Gln Asp Asn Val Leu Gly Tyr Pro Asp Thr Gly Gly Gln Val Val						
		290		295		300
Tyr Ile Leu Asp Gln Val Arg Ala Leu Glu Asn Glu Met Leu Leu Arg						
		305		310		315
Ile Lys Gln Gln Gly Leu Asn Ile Thr Pro Arg Ile Leu Ile Ile Thr						
		325		330		335
Arg Leu Leu Pro Asp Ala Val Gly Thr Thr Cys Gly Gln Arg Leu Glu						
		340		345		350
Lys Val Tyr Gly Thr Glu Tyr Ser Asp Ile Leu Arg Val Pro Phe Arg						
		355		360		365
Thr Glu Lys Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp						
		370		375		380

13/54

Pro Tyr Leu Glu Thr Tyr Thr Glu Asp Val Ala His Glu Ile Ser Lys
 385 390 395 400

Glu Leu Gln Gly Lys Pro Asp Leu Ile Ile Gly Asn Tyr Ser Asp Gly
 405 410 415

Asn Ile Val Ala Ser Leu Leu Ala His Lys Leu Gly Val Thr Gln Cys
 420 425 430

Thr Ile Ala His Ala Leu Glu Lys Thr Lys Tyr Pro Asp Ser Asp Ile
 435 440 445

Tyr Trp Lys Lys Leu Glu Asp Lys Tyr His Phe Ser Cys Gln Phe Thr
 450 455 460

Ala Asp Leu Phe Ala Met Asn His Thr Asp Phe Ile Ile Thr Ser Thr
 465 470 475 480

Phe Gln Glu Ile Ala Gly Ser Lys Asp Thr Val Gly Gln Tyr Glu Ser
 485 490 495

His Thr Ala Phe Thr Leu Pro Gly Leu Tyr Arg Val Val His Gly Ile
 500 505 510

Asp Val Phe Asp Pro Lys Phe Asn Ile Val Ser Pro Gly Ala Asp Met
 515 520 525

Glu Ile Tyr Phe Pro Tyr Thr Glu Glu Lys Arg Arg Leu Lys His Phe
 530 535 540

His Thr Glu Ile Glu Asp Leu Leu Tyr Ser Lys Val Glu Asn Glu Glu
 545 550 555 560

His Leu Cys Val Leu Asn Asp Arg Asn Lys Pro Ile Leu Phe Thr Met
 565 570 575

Ala Arg Leu Asp Arg Val Lys Asn Leu Thr Gly Leu Val Glu Trp Tyr
 580 585 590

Gly Lys Asn Ala Lys Leu Arg Glu Leu Ala Asn Leu Val Val Val Gly
 595 600 605

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Gly Asp Arg Arg Lys Glu Ser Lys Asp Leu Glu Glu Lys Ala Glu Met
610 615 620

Lys Lys Met Phe Glu Leu Ile Glu Lys Tyr Asn Leu Asn Gly Gln Phe
625 630 635 640

Arg Trp Ile Ser Ser Gln Met Asn Arg Ile Arg Asn Gly Glu Leu Tyr
645 650 655

Arg Tyr Ile Cys Asp Thr Lys Gly Ala Phe Val Gln Pro Ala Leu Tyr
660 665 670

Glu Ala Phe Gly Leu Thr Val Val Glu Ala Met Thr Cys Gly Leu Pro
675 680 685

Thr Phe Ala Thr Cys Asn Gly Gly Pro Ala Glu Ile Ile Val His Gly
690 695 700

Lys Ser Gly Phe Asn Ile Asp Pro Tyr His Gly Asp Gln Ala Ala Asp
705 710 715 720

Ile Leu Val Asp Phe Phe Glu Lys Cys Lys Lys Asp Pro Ser His Trp
725 730 735

Asp Lys Ile Ser Gln Gly Gly Leu Lys Arg Ile Glu Glu Lys Tyr Thr
740 745 750

Trp Lys Ile Tyr Ser Glu Arg Leu Leu Thr Leu Thr Gly Val Tyr Gly
755 760 765

Phe Trp Lys His Val Ser Asn Leu Glu Arg Arg Glu Ser Arg Arg Tyr
770 775 780

Leu Glu Met Phe Tyr Ala Leu Lys Tyr Arg Lys Leu Ala Glu Ser Val
785 790 795 800

Pro Leu Ala Glu Glu
805

<210> 10
<211> 195
<212> PRT
<213> Gossypium hirsutum

15/54

<400> 10

Met Glu Arg Gly Phe Ile Val Leu Ala Leu Thr Val Val Phe Ala Ala
 1 5 10 15

Thr Val Val Thr Ala Ala Asp Glu Ser Gly Leu Ala Asn Glu Cys Ser
 20 25 30

Lys Asp Phe Gln Ser Val Met Thr Cys Leu Ser Phe Ala Gln Gly Lys
 35 40 45

Ala Ala Ser Pro Ser Lys Glu Cys Cys Asn Ser Val Ala Gly Ile Lys
 50 55 60

Glu Asn Lys Pro Lys Cys Leu Cys Tyr Ile Leu Gln Gln Thr Gln Thr
 65 70 75 80

Ser Gly Ala Gln Asn Leu Lys Ser Leu Gly Val Gln Glu Asp Lys Leu
 85 90 95

Phe Gln Leu Pro Ser Ala Cys Gln Leu Lys Asn Ala Ser Val Ser Asp
 100 105 110

Cys Pro Lys Leu Leu Gly Leu Ser Pro Ser Ser Pro Asp Ala Ala Ile
 115 120 125

Phe Thr Asn Ser Ser Ser Lys Ala Thr Thr Pro Ser Thr Ser Thr Thr
 130 135 140

Thr Ala Thr Pro Ser Ser Ala Ala Asp Lys Thr Asp Ser Lys Ser Ser
 145 150 155 160

Gly Ile Lys Leu Gly Pro His Phe Val Gly Ser Thr Ala Ala Leu Leu
 165 170 175

Val Ala Thr Ala Ala Val Phe Phe Leu Val Phe Pro Ala Gly Phe Ala
 180 185 190

Ser Ile Val
 195

<210> 11

<211> 123

16/54

<212> PRT

<213> Gossypium hirsutum

<400> 11

Met Ala Ser Ser Gly Val Leu Lys Leu Val Ser Met Ile Leu Met Val
 1 5 10 15

Cys Met Thr Met Met Ser Ala Pro Lys Ala Ala Lys Ala Ala Ile Thr
 20 25 30

Cys Ser Asp Val Val Asn His Leu Ile Pro Cys Leu Ser Tyr Val Gln
 35 40 45

Asn Gly Gly Thr Pro Ala Ala Ala Cys Cys Ser Gly Val Lys Ala Leu
 50 55 60

Tyr Gly Glu Val Gln Thr Ser Pro Asp Arg Gln Asn Val Cys Lys Cys
 65 70 75 80

Ile Lys Ser Ala Val Asn Gly Ile Pro Tyr Thr Ser Asn Asn Leu Asn
 85 90 95

Leu Ala Ala Gly Leu Pro Ala Lys Cys Gly Leu Gln Leu Pro Tyr Ser
 100 105 110

Ile Ser Pro Ser Thr Asp Cys Asn Lys Val Gln
 115 120

<210> 12

<211> 282

<212> PRT

<213> Gossypium hirsutum

<400> 12

Pro Arg Val Arg Pro Arg Val Arg Ala His Leu Pro Lys Arg Thr Asp
 1 5 10 15

Asn Glu Ile Lys Asn Tyr Trp Asn Thr Gln Leu Lys Lys Arg Leu Thr
 20 25 30

Thr Ile Gly Ile Asp Pro Ala Thr His Arg Pro Lys Thr Asp Thr Leu
 35 40 45

Gly Ser Thr Pro Lys Asp Ala Ala Asn Leu Ser His Met Ala Gln Trp

17/54

50		55		60
Glu Ser Ala Arg Leu Glu Ala Glu Ala Arg Leu Val Arg Glu Ser Lys				
65		70		75
Arg Val Ser Asn Pro Ser Gln Asn Gln Phe Arg Phe Thr Ser Ser Ser				
	85		90	95
Ala Pro Pro Leu Val Ser Lys Ile Asp Val Gly Leu Ala His Ala Thr				
	100		105	110
Lys Pro Gln Cys Leu Asp Val Leu Lys Ala Trp Gln Arg Val Val Thr				
	115		120	125
Gly Leu Phe Thr Phe Asn Thr Asp Asn Leu Gln Ser Pro Thr Ser Thr				
	130		135	140
Ser Ser Phe Thr Glu Asn Thr Leu Pro Ile Ser Ser Val Gly Phe Ile				
145		150		155
Asp Ser Phe Val Gly Asn Ser Asn Asn Ser Cys Cys Gly Asn Asn Trp				
	165		170	175
Glu Cys Val Glu Lys Ser Ser Gln Val Ala Glu Leu Gln Glu Arg Leu				
	180		185	190
Asp Asn Ser Met Gly Leu His Asp Ile Leu Asp Leu Ser Ser Glu Asp				
	195		200	205
Val Trp Phe Gln Gly Ser Tyr Arg Ala Glu Asn Met Met Glu Gly Tyr				
	210		215	220
Ser Asp Thr Leu Met Val Cys Asp Ser Gly Asp His Pro Lys Ser Leu				
225		230		235
Ser Met Glu Pro Arg Gln Asn Phe Asn Val Gly Thr Ser Asn Ala Ser				
	245		250	255
Ser Phe Glu Glu Asn Lys Asn Tyr Trp Asn Asn Ile Leu Asn Phe Ala				
	260		265	270
Asn Ala Ser Pro Ser Gly Ser Ser Val Phe				
	275		280	

18/54

<210> 13
 <211> 177
 <212> PRT
 <213> *Gossypium hirsutum*

<400> 13

Met Lys Val Leu Ser Pro Ile Leu Ala Cys Leu Ala Leu Ala Val Val
 1 5 10 15

Ala Ser His Ala Ala Leu Ser Pro Glu Gln Tyr Trp Ser Tyr Lys Leu
 20 25 30

Pro Asn Thr Pro Met Pro Lys Ala Val Lys Glu Ile Leu His Pro Glu
 35 40 45

Leu Met Glu Glu Lys Ser Thr Ser Val Asn Val Gly Gly Gly Gly Val
 50 55 60

Asn Val Asn Thr Gly Lys Gly Lys Pro Ala Gly Gly Thr His Val Asn
 65 70 75 80

Val Gly Arg Lys Gly Val Gly Val Asn Thr Gly Lys Pro Gly Gly Gly
 85 90 95

Thr His Val Asn Val Gly Gly Lys Gly Val Gly Val Asn Thr Gly Lys
 100 105 110

Pro Gly Gly Gly Thr His Val Asn Val Gly Gly Lys Gly Gly Gly Val
 115 120 125

Ser Val His Thr Gly His Lys Gly Lys Pro Val Asn Val Asn Val Ser
 130 135 140

Pro Phe Leu Tyr Gln Tyr Ala Ala Ser Glu Thr Gln Ile His Asp Asp
 145 150 155 160

Pro Asn Val Ala Leu Phe Phe Leu Glu Lys Asp Leu His Pro Gly Gln
 165 170 175

Gln

19/54

<210> 14
 <211> 282
 <212> PRT
 <213> *Gossypium hirsutum*

<400> 14

Leu Ser Glu Ser Lys Glu Met Val Phe Gln Phe Asn Phe Pro Val Leu
 1 5 10 15

Leu Leu Cys Leu Met Phe Leu Met Cys Gly Arg Gly Asn Ala Val Arg
 20 25 30

Asp Leu Glu Gly Lys His Asp Phe Glu Ser His Gly Arg Asp Asp Glu
 35 40 45

Val Glu Ser Leu Asp Asp Lys Tyr Val Ser Ala Tyr Phe His Gln Thr
 50 55 60

Phe Asp Ser Ala Asn His Phe Asp Gly Gly Asp Glu Val Lys Asn Leu
 65 70 75 80

Glu Asp Lys Tyr Ser Thr Ala Tyr Phe His Lys Ser Leu Asp Ser Gly
 85 90 95

Asn His Gly Arg Asp Asp Lys Ala Lys Ile Leu Glu Asp Lys Tyr Ala
 100 105 110

Thr Ala Tyr Phe His Lys Thr Ser Val Phe Glu Asn His Gly Glu Gly
 115 120 125

Asp Lys Leu Lys Ser Leu Glu Asp Lys Tyr Ser Ala Ala Tyr Phe His
 130 135 140

Asn Thr Gln Ser Ser Lys Met Met Lys Asp His Asn Met Glu His His
 145 150 155 160

His His Tyr His Asn His Val Glu Ser Ala Glu Ile Gly Leu Phe Thr
 165 170 175

Ile Asp Glu Leu His Thr Phe Asn Val Gly Lys Lys Leu Pro Ile Phe
 180 185 190

Phe Pro Ile Lys Asn His Ser Leu Tyr Pro Pro Leu Leu Pro Lys Gln
 195 200 205

20/54

Ile Ala Asp Thr Ile Pro Phe Ser Ser Phe Gln Val Ser Asn Ile Leu
 210 215 220

Arg Phe Phe Ser Val Ser Pro Asp Ser Pro Lys Gly Lys Ser Cys Ser
 225 230 235 240

Arg Tyr Leu Arg Lys Met Arg Thr Arg Ser Ser Ala Arg Gly Arg Pro
 245 250 255

Lys Ile Trp Ala Thr Ser Leu Lys Ser Leu His Gly Phe Leu Ser Met
 260 265 270

His Leu Gly Pro Met Leu Ile Ser Ser Ser
 275 280

<210> 15
 <211> 55
 <212> PRT
 <213> Gossypium hirsutum

<400> 15

Lys Trp Glu Ala Gly Gln Ser Gln Cys Met Val Val Leu Val Phe Thr
 1 5 10 15

Gln Ile Ser Leu Val Lys Gly Lys Arg Lys Leu Cys Tyr Ser Ser Ile
 20 25 30

Val Ala Leu Ile Leu Glu Ser Val Leu Phe Val Leu Thr Phe Pro Ala
 35 40 45

Leu Thr Asp Met Asn Leu Tyr
 50 55

<210> 16
 <211> 235
 <212> PRT
 <213> Gossypium hirsutum

<400> 16

Met Pro Arg Thr Arg Arg Phe Asn Pro Pro Ser Ile Thr Ser Arg Thr
 1 5 10 15

Leu Gly His His Val Tyr Lys Asp Asp Asn Pro Ile Val Tyr Gly Thr

21/54

20	25	30
Met Gln Ala Tyr Leu Lys Asp Ala Arg Glu Arg Leu Phe Asn Thr Ala		
35	40	45
Arg Thr Ala Glu Lys Leu Gly Ile His Met Gly Phe Lys Leu Val Arg		
50	55	60
Gly Ala Tyr Met Ser Ser Glu Thr Lys Leu Ala Ser Ser Leu Gly Phe		
65	70	75
Asp Ser Pro Val His Asn Thr Ile Gln Asp Thr His Ala Cys Phe Asn		
	85	90
Asp Cys Ala Ser Phe Met Ile Glu Lys Ile Ala Asp Gly Tyr Gly Gly		
100	105	110
Leu Val Leu Ala Thr His Asn Leu Glu Ser Gly Lys Leu Ala Ala Ser		
115	120	125
Lys Ala Arg Asn Leu Gly Ile Glu Lys Gly Asn Gln Lys Leu Glu Phe		
130	135	140
Ala Gln Leu Tyr Gly Met Ser Glu Ala Leu Ser Ile Gly Leu Arg Asn		
145	150	155
Ala Gly Phe Gln Val Ser Lys Tyr Leu Pro Tyr Gly Pro Val Asp Met		
	165	170
Val Met Pro Tyr Leu Leu Arg Arg Ala Glu Glu Asn Arg Gly Leu Leu		
	180	185
Ser Thr Ser Ser Leu Asp Arg Thr Leu Met Gly Lys Glu Leu Lys Arg		
195	200	205
Arg Leu Lys Ser Leu Gln Phe Ala Lys Pro Glu Met Ala Ala Ser Ala		
210	215	220
Ala Gly Ser Met Lys Ile Glu Ile Gly Thr Pro		
225	230	235

<210> 17

<211> 2207

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<212> DNA

<213> *Gossypium hirsutum*

<400> 17

gtcaagttct ggttccaaaa caagcgcacc caaatgaagg cccaacatga acgccatgaa	60
aatgctatac tgaaggctga gaatgaaaaa ctccgagctg agaataatag gtacaaggaa	120
gctctcagca atgctacatg cccagctgt ggaggccag ctgcccttg agagatgtca	180
tttgatgagc aacatttgag aatagaaaat gctcgggttaa gggaagagat tgataggata	240
tctggaatag ctgctaaata tgttggaag cctttatctt cattgcctca cctttcatct	300
catttacatt cgcgctctgc tgatcttgga gctagcaatt tcgggaatca atcaggatgtt	360
gtaggggaaa tggatcgag tggatgctt ctgaggtctg tctctggacc tacagaagcg	420
gataagccca tgattgttga gcttgcgtt gctgcaatgg aggaactaat acgaatggcc	480
caatctgggg aacctttgtg ggttcctggg gacaattcta cagatgtgtt gaacgaagat	540
gaatacttaa gaactttccc taggggaatt ggaccaaagc ctttgggggtt gaggtctgaa	600
gottcaagag aatctgcagt tgtcatcatg aatcatgtca acttagttga gattctcatg	660
gatgtgaatc aatggtcaag tgtgttttgc ggtattgttt caagggtctat gacttttagaa	720
gtcctatcaa ctggagttgc aggaactac aatggggcct tgcaagtgat gacggctgag	780
ttccaagtcc cttcaccact tgtaccaact cgggaaaatt atttcgcgag gtactgtaag	840
cagcatattg atggaacttg ggcagtgggt gatgtttcct tggataattt acgccctaac	900
ccaatgtcaa gtgtagagag gccctcaggt tgcttgatcc agaattgcca aatggatacc	960
tctaaggtta tatgggtcga gcatgtagaa gtggatgata gagctgtcca caacatatac	1020
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cgacagtgtg agcgtctagc aagttcaatg gccagtaaca ttccagcagg gggctctatgc	1140
gttataacaa gcccagaagg gaggaaaagt atgttgaagt tggcagagag gatggtgact	1200
agcttttcta cagggtgttg tgcttctacg gccatgctt ggacaacttt atcggaaca	1260
ggctccgatg atgtgcgggt tatgaccga aagagcatgg atgatccagg aaggcctcct	1320
ggtattgtac ttagtgctgc aacttccttc tggatccaag ttccacccaaa gagggatattt	1380
gatttcctaa gggatgagaa ctctagaagt gagtgggata tcctatcaaa tgggtggccta	1440
gttcaagaaa tggctcacat agctaattgt cgtgatccag gcaattgtgt ctctttactc	1500
cgcgtaaata gtgcaaactc tagccaaagc aacatgttga tacttcaaga gagctgcact	1560
gatgctaaag ggtcctacgt gatatatgcc ccggtcaata ttgttgcaat gaacatcgtc	1620

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ttaagtggcg	gggacccgga	ttatgtcgca	ctattgccat	cgggtttcgc	aattcttccc	1680
gatggtccag	gagttaatgg	aggagggatc	ctcgaaatcg	gctcgggtgg	ctctctcctt	1740
accgttgctt	tccagatttt	ggttgattca	gttccacacag	caaagctttc	tcttggtatca	1800
gtggcgactg	tcaacagtct	aattaaatgc	acggttgaaa	ggatcaaggc	tgccgtaaag	1860
tgcaataatg	cttgaccaa	catgatataa	aaaaaggaaa	cgagaagaaa	aggtgtttgt	1920
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gtcatggtgt	tctgtaagaa	ggcaaaatca	tcaagcctgc	aaggatagta	ggttcgggaa	2040
ttgactttgc	caacgagatt	ctaataattag	atatgttggg	agaactcccc	attttgtgta	2100
ggctaagagt	tcaatgtagg	agtggacttt	atactagtct	aatttctttc	tggtttcatg	2160
tgttattggt	gaagcattag	ttaatttgga	cttattcctc	cattaac		2207

<210> 18
 <211> 1872
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 18	
gtcaagttct	ggttccaaaa caagcgcacc caaatgaagg cccaacatga acgccatgaa 60
aatgctatac	tgaaggctga gaatgaaaaa ctccgagctg agaataatag gtacaaggaa 120
gctctcagca	atgctacatg cccagctgt ggaggccag ctgcccttgg agagatgtca 180
tttgatgagc	aacatttgag aatagaaaat gctcgggttaa gggaagagat tgataggata 240
tctggaatag	ctgctaaata tgttggaag cttttatctt cattgcctca cttttcatct 300
catttacatt	cgcgctctgc tgatcttggg gctagcaatt tcgggaatca atcaggattt 360
gtaggggaaa	tggatcgcag tggatgattt ctgaggtctg tctctggacc tacagaagcg 420
gataagccca	tgattgttga gcttgctgtt gctgcaatgg aggaactaat acgaatggcc 480
caatctgggg	aacctttgtg gggtcctggg gacaattcta cagatgtgtt gaacgaagat 540
gaatacttaa	gaactttccc taggggaatt ggaccaaagc ctttgggggtt gaggtctgaa 600
gcttcaagag	aatctgcagt tgtcatcatg aatcatgtca acttagttga gattctcatg 660
gatgtgaatc	aatgggtcaag tgtgttttgc ggtattgttt caagggctat gactttagaa 720
gtcctatcaa	ctggagttgc aggaactac aatggggcct tgcaagtgat gacggctgag 780
ttccaagtcc	cttcaccact tgtaccaact cgggaaaatt atttcgcgag gtactgtaag 840
cagcatattg	atggaacttg ggcagtggtt gatgtttcct tggataattt acgccctaac 900

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ccaatgtcaa gtgtagagag gccctcaggt tgcttgatcc agaattgcc aatggataacc 960
tctaaggtta tatgggtcga gcatgtagaa gtggatgata gagctgtcca caacatatac 1020
agaccagtag ttaattccgg tctagctttt ggagcaaaac gttgggtggc tacgttggtat 1080
cgacagtgtg agcgtctagc aagttcaatg gccagtaaca ttccagcagg gggctctatgc 1140
gttataacaa gcccagaagg gaggaaaagt atgttgaagt tggcagagag gatggtgact 1200
agcttttgta caggtgttgg tgcttctacg gcccatgctt ggacaacttt atcggcaaca 1260
ggctccgatg atgtgcgggt tatgacccga aagagcatgg atgatccagg aaggcctcct 1320
ggtattgtac ttagtgctgc aacttccttc tggatccaag ttccaccaa gagggatattt 1380
gatttcctaa gggatgagaa ctctagaagt gagtgggata tcctatcaaa tgggtggccta 1440
gttcaagaaa tggctcacat agctaattgg cgtgatccag gcaattgtgt ctctttactc 1500
cgcgtaaata gtgcaaactc tagccaaagc aacatgttga tacttcaaga gagctgcact 1560
gatgctaaag ggtcctacgt gatatatgcc ccggtcaata ttggtgcaat gaacatcgtc 1620
ttaagtggcg gggacccgga ttatgtcgca ctattgccat ccggtttcgc aattcttccc 1680
gatggtccag gagttaatgg aggagggatc ctcgaaatcg gctcgggtgg ctctctcctt 1740
accgttgctt tccagatttt ggttgattca gttcccacag caaagctttc tcttggtatca 1800
gtggcgactg tcaacagtct aattaaatgc acggttgaaa ggatcaaggc tgccgtaaag 1860
tgcaataatg ct 1872

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<210> 19
<211> 1180
<212> DNA
<213> Gossypium hirsutum

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<400> 19
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cccagaagaa gatcaaaagc tottagctta cattgaacaa catggccatg gaagctggcg 180
tgctttgcct tcaaaagctg ggcttcaaag atgtggaaag agttgcagac tgagatggat 240
taactacttg agacctgata tcaaaagagg aaagttcagt ttacaagaag aacagaccat 300
tattcaactc catgcccttc ttggaaacag gtgggtctgcc atagctactc atttgccgaa 360
aagaacagac aatgagatca agaactactg gaacacacat ctaatgaaaa ggctaaccaa 420
aatggggatc gatcctgtca cccacaagcc taaaaccgat gcactcggct ccaccactgg 480

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taaccctaaa gatgctgcta accttagtca catggctcaa tgggagagtg ctcgttttaga 540
agctgaagct agactgggtc gtgagtcctc gctagttcct tcaaaccctc ctcaaagcaa 600
ccatttcact gccgttgccg cttcgccgac tccggcaact agaccgcaat gcctcgacgt 660
actcaaagca tggcaaggtg tcgtctgcgg gttatttact ttcaacatgg acaataacaa 720
cttacagtcc cctacgtcaa cggtgaactt catggagaac accacaacat tgcccatgtc 780
atcatcatcg tctgttaatg gaatgtttta tgaaaaacttt gggttggaact catcgattaa 840
tccatgtgaa agtggggata atttgaaagt tgaatatggc agtgatcaaa ttccagagtt 900
aaaggaaaga ttggatcatc caatggaatt gcatgaaatg gactattctt cagagggtac 960
atgggtttcaa gagttgtttg gatttaatgg tttatgattc tgcagaagga ttcataaag 1020
gaaagaaagc tatctgggtt catctttgaa gttcacttaa gtgtaggatt tttattcaca 1080
agtgccttca catattacca ttaactgtaa taataaacct tcaaattaat aaattaataaa 1140
actcacaagg gtttttggcc aaaaaaaaaa aaaaaaaaaa 1180

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<210> 20
<211> 927
<212> DNA
<213> Gossypium hirsutum

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<400> 20
atggggagat caccatgttg tgaaaaggta ggggtgaaga aagggtccatg gacccagaa 60
gaagatcaaa agctcttagc ttacattgaa caacatggcc atggaagctg gcgtgccttg 120
ccttcaaaaag ctgggcttca aagatgtgga aagagttgca gactgagatg gattaactac 180
ttgagacctg atatcaaaaag aggaaagttc agtttacaag aagaacagac cattattcaa 240
ctccatgccc ttcttggaag cagggtgtct gccatagcta ctcatgtgcc gaaaagaaca 300
gacaatgaga tcaagaacta ctggaacaca catctaataa aaaggctaac caaatgggg 360
atogatcctg tcaccacaaa gcctaaaacc gatgcactcg gctccaccac tggttaaccct 420
aaagatgctg ctaaccttag tcacatggct caatgggaga gtgctcgttt agaagctgaa 480
gctagactgg ttcgtgagtc caagctagtt ccttcaaacc ctctcaaag caaccatttc 540
actgccgttg cgccttcgcc gactccggca actagaccgc aatgcctcga cgtactcaaa 600
gcatggcaag gtgtcgtctg cgggttattc actttcaaca tggacaataa caacttacag 660
tccctacgt caacgttgaa cttcatggag aacaccacaa cattgcccat gtcacatca 720
tcgtctgtta atggaatgtt taatgaaaac tttgggttga actcatcgat taatccatgt 780

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gaaagtgggg ataatttgaa agttgaatat ggcagtgatc aaattccaga gttaaaggaa 840
 agattggatc atccaatgga attgcatgaa atggactatt cttcagaggg tacatggttt 900
 caagagttgt ttggatttaa tggttta 927

<210> 21
 <211> 600
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 21
 agcgatgtga gcgtctcctc ctctgtgtaa tctctgatgc aagatccatc cattatcttc 60
 cctctgtatt ggctactgca accatgatgc acgtcataga ccaagttgag cttttcaatc 120
 ccattgacta ccaaaatcag ctgctgagtg ttcttaaaat tagcaaggaa aaagtaaacg 180
 attgttacia gctcatcctt gatgtatcaa caagacccca ggcccaaggc aatgggtggtg 240
 catgtaagag gaaggtggag gagagggttc ctagcagccc tagtggagtg attgatgctg 300
 catttggcag tgatagctcg agcgattctt ggggcacggt gtccttatcg cctgagcagc 360
 agccaccttt taagaagagc agagcccaag agcaagtaat gcgtttgcca tcaactcaacc 420
 gagtctttgt agacattgtt ggcagccctt cttaattata tctcccttct ctctctcctt 480
 cgctctctcc atctctttct ttgtccaaa aagatctata tttattatgc ttatgttcac 540
 ttttggttca aggaatcaaa tgttaagtta aaaaaatgaa aaaaacaaag taaaagctgc 600

<210> 22
 <211> 452
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 22
 agcgatgtga gcgtctcctc ctctgtgtaa tctctgatgc aagatccatc cattatcttc 60
 cctctgtatt ggctactgca accatgatgc acgtcataga ccaagttgag cttttcaatc 120
 ccattgacta ccaaaatcag ctgctgagtg ttcttaaaat tagcaaggaa aaagtaaacg 180
 attgttacia gctcatcctt gatgtatcaa caagacccca ggcccaaggc aatgggtggtg 240
 catgtaagag gaaggtggag gagagggttc ctagcagccc tagtggagtg attgatgctg 300
 catttggcag tgatagctcg agcgattctt ggggcacggt gtccttatcg cctgagcagc 360
 agccaccttt taagaagagc agagcccaag agcaagtaat gcgtttgcca tcaactcaacc 420
 gagtctttgt agacattgtt ggcagccctt ct 452

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<210> 23
 <211> 704
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 23
 gctgaacacc ccaaagatgg ccaaccacac cgttaccttt ctccctaaac tatccattga 60
 agctattcag acagtgactc cgatgaggat aactgaacca cgacagactc gacaagtatt 120
 ggcaggggag cttgtaggac ccgggatttt ccaaagggtg ttgaacgtgg tccagtacta 180
 catgaaggag aaagaagaag actctggttg gttactggct ggggtggatca aggaaacact 240
 tgggagagct ttacatgagc aaccaatgat ttctggctcg cttcggaaag gggaacgaaa 300
 cgatggagaa ttggagattg tttccaatga ctgcggcatt agactcattg aggcaaggat 360
 tcagatgaat ctgtcggatt ttcttgattt gaaacaaagg gaagatgctg aagctcagct 420
 tgttttctgg aaagatattg atgagcaaaa cccacagttc tccccactct tttatgttca 480
 ggttactaat ttccagtgtg gtggatatct aattgggatt agctgcagta ttcttctggc 540
 agatcttttg ttaatgaaag aattccttaa gacatgggca gatattccaa caaggttatt 600
 atcaacaaaa acgatgaaca aaagcttcct ttattctacc ttcttggtg aaaaacacca 660
 atggtgcctc cctacatcat cacatcaaat tcaagcaaaa ctca 704

<210> 24
 <211> 548
 <212> DNA
 <213> *Gossypium hirsutum*

<220>
 <221> misc_feature
 <222> (491)..(491)
 <223> n = unknown

<400> 24
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 cttgaatggt gtgcttggtc ttgctctagt agtgggtcaa gctactgcaa ggaatgtgcc 120
 tagcgatgct gctggtctca atgacaaaaa gaacctctc acatacgggtg gcattggcgg 180
 ctactctggc atgggttcaa atggcatgcc aatgggtgga gttgggagtg ttggtggtat 240
 gactggcctt ggtggtacag gtgggatggg cgccatggta ggtgttgggt atggaggtgg 300
 gcctggcgct ggtggtggaa atgaaggtgg tgttggcatt ggcaatgcgc ctggtgtcgt 360
 ccactttcct tgaactttgc tggatgggtta aaattttaaa gcaactagtt tcttgaactt 420

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tgctggaggg gtttaaattt taaagcaact agtctaactt acgttaaaga ataataattaa 480
 tgttgctcta nagtgtgaaa tgttgtcctg tgtatgggtt atgtgataag tccatcttta 540
 tttttttt 548

<210> 25
 <211> 321
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 25
 atggccaagt acttgaatgt tgtgcttggt cttgctctag tagtggttca agctactgca 60
 aggaatgtgc ctagcgatgc tgctgggtctc aatgacccaa agaacctcct cacatacggg 120
 ggcattggcg gctactctgg catgggttca aatggcatgc caatgggtgg agttgggagt 180
 gttggtggta tgactggcct tgggtgtaca ggtgggatgg gcgccatggt aggtgttggg 240
 tatggaggtg ggcctggcgc tgggtgtgga aatgaagggt gtgttgatcat tggcaatgcg 300
 cctgggtgtcg tccactttcc t 321

<210> 26
 <211> 727
 <212> DNA
 <213> *Gossypium hirsutum*

<220>
 <221> misc_feature
 <222> (26)..(26)
 <223> n = unknown

<400> 26
 ccaaaatgta agtcttcaaa accaanagaa gaaactgtaa agcagtagta atgcaaagtc 60
 ttagacactc aaatataagt agcaaaactaa cctatgggtt atttggtctga ttttgaaggg 120
 ttcatggtgt attttggtgc gtgtctgtta agaatccgag ttgttgtccc gtggtattag 180
 cttctctgtc ttgctgggtg cgattgggca gttgtgacgt ctataatcaa gtgattcaag 240
 gaaaccgtta gcttcatttt acttggagaa gacaaagaag ctattgttgt gctggacttg 300
 ttcttgcttt ttctctttgt atggtgtggt ttatgggttg tattatgagt tttatatgaa 360
 tagaactttg aatttggtga gaaaattaag aatgagcttg ggaggagcag aagtgttgat 420
 ggcaatagca gggttgtggg cagtggtttt gaggccattg atgataaggt atgccgtaga 480
 gatgagtcaa atgattggaa tttccgttag gagatttttc agtaatcctc tttccccttc 540

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cgtatcgttt ttttattggt actgatataag aaattctatg aaatgagcac aatatgagac 600
 accatttttt gctagccaag aagtttagatg agtagtagac tttggtttaa gcttatcata 660
 attgaaattg ttagactgta acccttttgt ctcctttctc taatttcaaa tccaaattcc 720
 catcaat 727

<210> 27
 <211> 562
 <212> DNA
 <213> *Gossypium hirsutum*

<220>
 <221> misc_feature
 <222> (26)..(26)
 <223> n = unknown

<400> 27
 ccaaaatgta agtcttcaaa accaanagaa gaaactgtaa agcagtagta atgcaaatgc 60
 ttagacactc aaatataagt agcaaaactaa cctatgggtt atttggctga ttttgaaggg 120
 ttcatgggtg attttgggtg gtgtctgtta agaatccgag ttgttgtccc gtggtattag 180
 cttctctgtc ttgctgggtg cgattgggca gttgtgacgt ctataatcaa gtgattcaag 240
 gaaaccgtta gcttcatttt acttggagaa gacaaagaag ctattgttgt gctggacttg 300
 ttcttgcttt ttctctttgt atggtgtggt ttatggtttg tattatgagt tttatatgaa 360
 tagaactttg aatttgggtg gaaaattaag aatgagcttg ggaggagcag aagtgttgat 420
 ggcaatagca gggttgtggg cagtggtttt gaggccattg atgataaggt atgccgtaga 480
 gatgagtcaa atgattggaa tttccgttag gagatttttc agtaatcctc tttccccttc 540
 cgtatcgttt ttttattggt ac 562

<210> 28
 <211> 835
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 28
 tacggtggtg ctgatgctac cggcacaatg gggggagctt gtggttatgg aaacctgtac 60
 agtcaagggt atggaacgag cacagcagct ttgagcactg cacttttcaa caatggcttg 120
 agctgcggtg cctgctacga gctccggtgc aacaatgatc ctcaatggtg cattagtcga 180
 accataaccg tgacagccac caacttttgt ccacctaaact atgctttatc tagtgacaat 240
 ggcgggtggt gcaatcccc acgagaacac tttgatttgg ccgaaccggc attcttgcg 300

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atagcagaat atcgagctgg aatcgtcctt gttatgttca gaagggtgtc atgtgtgaag 360
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aacgtgggag gggcagggga tataacgtca gtgtccatca agggttccag aacaggatgg 480
ctacctatgt ccagaaattg gggccaaaac tggcagagca atgcttacct taacggacaa 540
agcctctctt ttaaagtac tgccagcgat ggcaggacta tcacagccta caatgtagtg 600
cctgctggtt ggcaattcgg aaaaactttt gaaggaggcc agttttaaga caatattata 660
gtgtctgtct aatataaaac tggaattgac atattactta tataaggcac atgagcggtt 720
tatgccgagg tagcaaaatg gcgcccgctg gctttatgtg tgaaataggc gagcaagtgc 780
cattagccta taatctatac atttcttata gtgaacaaaa ctattaagtt tgaac 835

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<210> 29

<211> 765

<212> DNA

<213> *Gossypium hirsutum*

<400> 29

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tacggtggtg ctgatgtac cggcacaatg gggggagctt gtggttatgg aaacctgtac 60
agtcaagggt atggaacgag cacagcagct ttgagcactg cacttttcaa caatggcttg 120
agctgcggtg cctgctacga gtcocggtgc aacaatgatc ctcaatgggtg cattagtcga 180
accataaccg tgacagccac caacttttgt ccacctaaact atgctttatc tagtgacaat 240
ggcgggtggt gcaatcccc acgagaacac tttgatttgg ccgaaccggc attcttgagg 300
atagcagaat atcgagctgg aatcgtcctt gttatgttca gaagggtgtc atgtgtgaag 360
aaaggaggca tcagggtacac catgaatgga cattcgtact tcaacatggg gttgataacg 420
aacgtgggag gggcagggga tataacgtca gtgtccatca agggttccag aacaggatgg 480
ctacctatgt ccagaaattg gggccaaaac tggcagagca atgcttacct taacggacaa 540
agcctctctt ttaaagtac tgccagcgat ggcaggacta tcacagccta caatgtagtg 600
cctgctggtt ggcaattcgg aaaaactttt gaaggaggcc agttttaaga caatattata 660
gtgtctgtct aatataaaac tggaattgac atattactta tataaggcac atgagcggtt 720
tatgccgagg tagcaaaatg gcgcccgctg gctttatgtg tgaaa 765

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<210> 30

<211> 985

<212> DNA

<213> *Gossypium hirsutum*

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<400> 30
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actagttccc aacttcatga tgggagtcac aattggagct gggtatatag gtttgctaata      120
gatgacagct ggggtatttca gattgctgcc agatctccct aagatattct ggcgttaccc      180
tggttcatat atcaactatg gtgcatgggc attgcaggga gcatacaaga atgatatggc      240
tgggcttgag tttgatggct tcatacctgg tgggccaaaa ctgaaagggtg atgtcgtcct      300
cacatccatg ctaggcatcc atctggatca ttcaaagtgg tgggacttag cagctgttat      360
aatgattttg atagcttata gattactttt cttcatcatt ctcaagttca aggagagagt      420
gtcaccattg tttcgaactc tttatacatg gcgaacattg cagcacatga aaaaacgacc      480
ttcttttagg aaaacatcag ctttcccatc caagaggcac caagttctac attcactgtc      540
ttctcaagag ggtctaaact ctccaattca ctagaagcaa caaatcatga gtactatagt      600
aatgctctta ctggaatttg attacagaaa caaagggaaa gagattatag tagaattaca      660
tatggaatta cctgtatcag ctttattttt caagtgtctc taatatctgc ggactgttct      720
ggcattaatg gcaagagagt ttcccatcac ccaagaatgg tttgtttatg gtccctcccta      780
gcaatggcga tgaagagcag aaacctgatt tctgttggtg caaccagtgc tttgaagtaa      840
ccagatatga taaacaggta cagaaaatat ccattgttct ttcgtagata atttcatctg      900
ccaaatgttt gtagctgatg cctcctacat tatacaatgt cataacatct aatgatacca      960
ttatatttgt acgtaaaaaa aaaaaa                                         985

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<210> 31
<211> 571
<212> DNA
<213> Gossypium hirsutum

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<400> 31
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gatgacagct ggggtatttca gattgctgcc agatctccct aagatattct ggcgttaccc      180
tggttcatat atcaactatg gtgcatgggc attgcaggga gcatacaaga atgatatggc      240
tgggcttgag tttgatggct tcatacctgg tgggccaaaa ctgaaagggtg atgtcgtcct      300
cacatccatg ctaggcatcc atctggatca ttcaaagtgg tgggacttag cagctgttat      360
aatgattttg atagcttata gattactttt cttcatcatt ctcaagttca aggagagagt      420

```

32/54

gtcaccattg tttcgaactc tttatacatg gcgaacattg cagcacatga aaaaacgacc 480
ttcttttagg aaaacatcag ccttcccatc caagaggcac caagttctac attcactgtc 540
ttctcaagag ggtctaaact ctccaattca c 571

<210> 32
<211> 2611
<212> DNA
<213> *Gossypium hirsutum*

<400> 32
caaagaaatg gctaactctg tgatcactcg cgtccacagt ctccgtgagc gtttagatga 60
gacccttctt gccacagga acgagatctt ggccttgctc tcaaggatcg agggcaaagg 120
aaaaggaatt ctgcaacacc atcaaattat tctagagttt gaagctatcc ctgaagagaa 180
cagaaagaag ctgcgtgatg gtgcattttt tgaagtattg aaggctagtc aggaagcgat 240
cgtgttgctt ccatgggttg cacttgctgt tcgtccaagg cctgggtgtt gggagtacat 300
tagagtgaat gttcacgccc ttgttggtga ggaacttact gttgctgagt atctccactt 360
caaggaagag cttgttgatg gaagttcaaa tggaaacttt gttttggaat tggattttga 420
gcccttcaac tcatcattcc cccgccaac tctttcaaaa tccgttggtg atgggtgtgga 480
gttcctaaat cgtcaccttt cggcaaaatt gttccatgac aaggagagca tgcacccttt 540
gctcgaattc ctacagagtc attgccacaa gggcaagaac atgatgttga atgacagaat 600
tcagaacttg aatgctcttc aacatgtttt gaggaaagca gaggagtatc ttggtaccct 660
acctcctgag acaccatgtg ccggattcga acaccggttc caggaaatcg gtttggaag 720
aggttggggg gacaccgcac aacgcgtgct cgagatgac caactccttt tggatcttct 780
tgaggcacct gatccttgca cccttgagaa gttccttggg agaatcccca tgggtgttcaa 840
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caccggtggc caggttggtt acatcttgga tcaagtccga gctttggaga atgagatgct 960
cctccgtata aagcaacaag gactcaacat caccctcga atcctcatta ttactagact 1020
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cgtcgcctcc ttgctcgac ataaattggg tgtcacacag tgcaccatcg cccatgcttt 1320

33/54

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ggagaagaca aaatatcctg attcagatat ctactggaag aagcttgaag acaaatacca 1380
tttctcttgc caatttacag ctgatctttt tgcaatgaac catacagatt tcatcatcac 1440
cagtactttc caggaaattg caggaagcaa ggacactggt ggtcaatacg agagccacac 1500
tgctttcact cttcctggtc tctaccgtgt tgtacatggt atcgatgtgt ttgatcccaa 1560
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goggagggtg aagcatttcc atactgagat cgaagacctt ctttacagca aagttgagaa 1680
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gogtgagttg gctaacctcg tagttgtagg tggatagagg cgaaaggaat ctaaagattt 1860
ggaagagaag gccgaaatga agaaaatggt tgagctgata gagaagtaca acttgaacgg 1920
ccaattcaga tggatatcat ctcaaatgaa cagaatccga aatggtgaac ttaccgata 1980
catttgcgac acgaaagggt cctttgtaca gcctgcattg tatgaagcct ttggattgac 2040
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ttggagaata atattctggt ttgtaatttc aattggagaa gctcttttgt atttcatctt 2520
gtcttttctt tttccttttt tcgcgcgcat tgtttgaaca tggggttgtg cgcccgtaa 2580
ttccagttaa atatggtgac ttttgTTTT c 2611

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<210> 33

<211> 2415

<212> DNA

<213> *Gossypium hirsutum*

<400> 33

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cttgcccaca ggaacgagat tttggccttg ctctcaagga tcgagggcaa aggaaaagga 120
attctgcaac accatcaaata tattctagag tttgaagcta tccctgaaga gaacagaaag 180

```

34/54

aagctcgctg atggtgcatt ttttgaagta ttgaaggcta gtcaggaagc gatcgtgttg 240
cctccatggg ttgcacttgc tgttcgtcca aggccgtgtg tttgggagta cattagagtg 300
aatgttcacg cccttgttgt tgaggaaactt actgtttgctg agtatctcca cttcaaggaa 360
gagcttgttg atggaagttc aaatggaaac tttgttttgg aattggattt tgagcccttc 420
aactcatcat tccccgccc aactctttca aaatccgttg gtaatggtgt ggagttccta 480
aatcgtcacc tttcggcaaa attgttccat gacaaggaga gcatgcaccc tttgctcgaa 540
ttcctcagag tccattgcca caagggcaag aacatgatgt tgaatgacag aattcagaac 600
ttgaatgctc ttcaacatgt tttgaggaaa gcagaggagt atcttggtag cctacctcct 660
gagacaccat gtgccggatt cgaacaccgg ttccaggaaa tcggtttgga aagaggttgg 720
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cgtgtcaaga acttaaccgg actcgtcgag tggtagcgca agaacgcaaa gttgcgtgag 1800
ttggctaacc tcgtagttgt aggtggtgat aggcgaaagg aatctaaaga tttggaagag 1860
aaggccgaaa tgaagaaaat gtttgagctg atcgagaagt acaacttgaa cggccaattc 1920

35/54

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agatggatat catctcaaat gaacagaatc cgaaatgggtg aactttaccg atacatttgc 1980
gacacgaaag gtgcctttgt acagcctgca ttgtatgaag cctttggatt gacagttgtg 2040
gaggcaatga cttgcggttt gccaacattc gcaacctgca acggtggacc agccgagatt 2100
attgtccatg ggaaatctgg tttcaacatt gatccttacc atggtgatca agctgctgac 2160
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caaggaggct tgaaacgtat cgaggagaag tatacatgga agatttactc ggagagacta 2280
ttgacctga cgggagtgtg tggattctgg aagcatgttt ccaacctga acgccgtgag 2340
agtcgtcgtt accttgagat gttttatgct cttaagtacc gcaagctggc tgaatcagtt 2400
ccattggcag aggag 2415

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<210> 34
<211> 732
<212> DNA
<213> Gossypium hirsutum

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<400> 34
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gtggttacgg cggctgacga gagtgggtta gcgaatgagt gcagcaaaga tttccagagc 120
gtgatgactt gcttaagctt tgctcaagga aaagcagcgt cgccgtcgaa ggagtgttgt 180
aattcagtggt cggggattaa agagaataaaa cccaaatgtt tgtgttatat tttgcaacaa 240
acacaaactt ccggtgctca aaatctcaaa agcttaggtg ttcaagaaga taagctgttt 300
cagttaccgt cggcttgctca attgaagaac gctagcgtca gtgattgcc aaagcttctt 360
gggttatctc cgagctcacc agacgccgcc atcttcacca actcctcctc taaagcaacg 420
acaccagta cttcaacaac caccgcaacg cgtcttccg cggccgataa aaccgatagc 480
aaatccagtg gaatcaagct tgggtcccaac ttcgctcggtt ccacggcggc gctactgggt 540
gctacagcgg ccgtgttttt ccttgatttc ccagctggat ttgcttcaat agtttagggg 600
ttttgcatgg gatttcgaga tttggagggtt tatttattgt tgaagtccat ttgttttta 660
acggtctcag aaaaaaaatg gactgagttg acaattatga tgatttttcg tttatttttc 720
ctttttctta tt 732

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<210> 35
<211> 585
<212> DNA
<213> Gossypium hirsutum

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36/54

<400> 35
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 gcggctgacg agagtgggtt agcgaatgag tgcagcaaag atttcagag cgtgatgact 120
 tgcttaagct ttgctcaagg aaaagcagcg tcgccgtcga aggagtgttg taattcagt 180
 gcggggatta aagagaataa acccaaagt ttgtgttata ttttgcaaca aacacaaact 240
 tccggtgctc aaaatctcaa aagcttaggt gttcaagaag ataagctgtt tcagttaccg 300
 tcggcttgctc aattgaagaa cgctagcgtc agtgattgcc caaagcttct tgggttatct 360
 ccgagctcac cagacgccgc catcttcacc aactcctcct ctaaagcaac gacaccagct 420
 acttcaacaa ccaccgcaac gccgtcttcc gcggccgata aaaccgatag caaatccagt 480
 ggaatcaagc ttggtcccca ctctgctcgt tccacggcgg cgctactggt tgctacagcg 540
 gccgtgtttt tccttgattt ccagctgga tttgcttcaa tagtt 585

<210> 36
 <211> 610
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 36
 caaacactag tagaagggtt agttttacaa acatggctag ttccggtgct ctttaagttgg 60
 tttccatgat tctcatggtg tgcattgacg tgatgagtgc acccaaggca gccaaagccg 120
 ccatcacgtg cagcgacgtg gtgaaccaact tgatcccggtg cttgtcctac gtacaaaacg 180
 gcggtacacc cgctgctgca tgcgtcagtg gggtaaaagc actctacggc gaggttcaga 240
 cctccccgga ccgccaaaac gtgtgcaagt gcatcaaact ggcggtgaac ggaattccgt 300
 acaccagcaa taacctcaat ctgcgagcgg gcctacctgc taaatgtggt ctccaactcc 360
 cttacagcat cagcccctcc actgactgca acaagggtgca gtgaggttga tgatgatgat 420
 atggaaggag tggaagaagg ttccagctca gctagataaa gtagctagct aaggttaaat 480
 aagctgtgtt ggtgtgttgt tttttagaaa attccatata taatcgggga aagaaaaaaa 540
 aatagaaaat gtactttgta actgtatttc gtatgtgata tatataatgt atcgtaatct 600
 ttaatttttt 610

<210> 37
 <211> 369
 <212> DNA
 <213> *Gossypium hirsutum*

37/54

<400> 37
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 atgagtgcac ccaaggcagc caaagccgcc atcacgtgca gcgacgtggt gaaccacttg 120
 atcccgtgct tgtcctacgt acaaaacggc ggtacacccg ctgctgcatg ctgcagtggg 180
 gtaaaagcac tctacggcga ggttcagacc tccccggacc gccaaaacgt gtgcaagtgc 240
 atcaaatcgg cgggtgaacgg aattccgtac accagcaata acctcaatct cgcagccggc 300
 ctacctgcta aatgtggtct ccaactccct tacagcatca gccctccac tgactgcaac 360
 aaggtgcag 369

<210> 38
 <211> 886
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 38
 ccacgcgtcc gccacgcgt cccgggtcat ttgccaaaaa gaacagacaa tgagatcaag 60
 aactactgga atacacagtt gaagaaaagg ttgacgacga tagggatcga ccttgcaact 120
 cacaggccta aaaccgatac cctcggttct actcccaagg atgcogctaa ccttagccac 180
 atggctcaat gggagagtgc tcggttagaa gctgaagcta gattggtgag agagtcgaaa 240
 cgagtttcaa acccttcgca aaaccaattt aggttcacgt cttcatcggc tctccactg 300
 gtaagcaaaa ttgatgttg tttgggtcat gctactaaac cgcaatgcct cgatgtactc 360
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 ccaacatcga cgtcgagctt cacggaaaac acgttaccaa tctcatctgt cgggttcatt 480
 gacagctttg tggggaactc aaataacagc tgttgcgga ataattggga atgtgtggag 540
 aaatcgagcc aagttgctga attacaggaa agattggata actcaatggg gttgcatgac 600
 atattggatc tctcctcaga agatgtatgg tttcaaggct catacagggc ggaaaatatg 660
 atggaagggg attcggacac gttaatgggt tgtgattctg gggatcatcc gaagagtttg 720
 tcaatggagc ctagacaaaa ctttaatggt ggaacaagta atgctagtag tttcgaagaa 780
 aacaagaatt actggaacaa catccttaat tttgcgaatg cttccccttc tggttcttct 840
 gtcttttgag attaattggt aagatttgaa ataaataaaa atatat 886

<210> 39
 <211> 1353
 <212> DNA
 <213> *Gossypium hirsutum*

38/54

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<400> 39
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ctctcaccgg agcaatattg gagctataag ctgccaaata ctccaatgcc aaaggctgtc      180
aaagaaattc tacatccaga actgatggag gagaaaagta cctctgtaaa tgtaggaggt      240
ggtggtgtaa acgtcaacac aggaaaaggg aagccagcgg gtggcactca tgtgaacggt      300
gggcgcaaag gagttggagt gaacacggga aagccagggg gtggcactca tgtgaatggt      360
ggaggcaaag gagttggggg gaacactgga aagccaggag gtggcaccca tgtgaacggt      420
ggaggcaaag gtggaggagt atctgtacac accggacaca agggaaagcc agtaaagtgt      480
aatgtgagtc cgtttcttta ccaatatgca gccagtgaia ctcaaatacca tgacgatccg      540
aatgtggctc ttttctttct ggaaaaggat ttacaccccg ggcaacaatg agcctgcatt      600
tcacttgaaa atacagagaa atccctttct taccttatca aactgccaaa aaaatccggt      660
ttcattttacg aagttgccag aattttcaca agttttcagt gaacctggat cagtgaaggc      720
agagatgatg aagaacccat taaggagtgc gaacagccag cgattgaagg agaggaaaaa      780
tattgtgcac cctcactgga gtcaatgatt gactacagca tttccaaact agggaaagtt      840
gatcaggcag tctcaacaga agtggaiaaa caaaccccaa cgcacaagta tacaataaca      900
gctggagtgc agaagatgac aaatgacaaa gctgtagtgt gccacaagca gaattatgca      960
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aacccaaagc atttggcttt tcaagtccta aaagttgagc caggaacatc tcctgtctgc     1140
catttccttc ctcggtatca cattgtttgg gtccccaagt aaaagtcctg aagagtagac     1200
tcatacacta tagtttcata atagggtgca ttaaaacagc ttaaagcaat ctccagtttg     1260
ttctataata atatacccac gagtttagtc atgtaaaatc tatccatgaa tcatgttctt     1320
agtaatggat aaaatgatag tactttctgt atc                                     1353

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<210> 40
<211> 1122
<212> DNA
<213> Gossypium hirsutum

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<400> 40
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39/54

gctctctcac ccgagcaata ttggagctat aagctgccaa atactccaat gccaaaggct 120
gtcaaagaaa ttctacatcc agaactgatg gaggagaaaa gtacctctgt aaatgtagga 180
gggtggtggtg taaacgtcaa cacaggaaaa gggaagccag cgggtggcac tcatgtgaac 240
gttgggcgca aaggagttgg agtgaacacg ggaaagccag ggggtggcac tcatgtgaat 300
gttggaggca aaggagttgg ggtgaacact ggaaagccag gaggtggcac ccatgtgaac 360
gttggaggca aagggtggagg agtatctgta cacaccggac acaagggaaa gccagtaaat 420
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atttcacttg aaaatacaga gaaatccctt tcttacctta tcaaactgcc aaaaaaatcc 600
gttttcattt acgaagttgc cagaattttc acaagttttc agtgaacctg gatcagtga 660
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tgccatttcc ttctctggga tcacattgtt tgggtcccca ag 1122

<210> 41
<211> 1373
<212> DNA
<213> *Gossypium hirsutum*

<220>
<221> misc_feature
<222> (895)..(895)
<223> n = unknown

<220>
<221> misc_feature
<222> (911)..(911)
<223> n = unknown

<220>
<221> misc_feature
<222> (1270)..(1270)

40/54

<223> n = unknown

<220>

<221> misc_feature

<222> (1336)..(1336)

<223> n = unknown

<400> 41

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ttgaaagcca tggcagagac gacgaagtgg agagtttaga tgacaagtac gttagcgtt	180
actttcatca aacttttgat tctgcaaatc actttgatgg aggtgatgaa gtgaagaatt	240
tagaagacaa atattcaacg gcttacttcc acaaatcggt agattctgga aaccatggca	300
gagatgacaa agcaaagata ttggaagaca agtatgctac tgcgtacttc cacaagactt	360
ctgttttttga aaaccatggg gaaggtgaca aattaaagag tttggaagat aaatattccg	420
cggcttactt tcacaacaca caatcttcca aaatgatgaa ggatcacaa atggaacatc	480
accaccatta ccataaccat gttgaaagtg cagagatagg cttgttcacc attgatgaac	540
tacatacctt taacgtaggg aagaaattac ccatcttttt cccaataaaa aaccactctc	600
tttaccctcc tttattgcct aaacaaattg ctgacaccat ccttttttca tctttccaag	660
tttctaatat tctacgattc ttctcagttt ctccggactc ccccaaaggc aaaagctgtt	720
caagatacct tcgcaaaatg cgaactcgga gcagcgcaag ggggagacc aaaatctggg	780
ctacctcttt aaaatcttta catgggtttc taagcatgca tttgggcccc atgttgattt	840
caagttcata agccaaggca tcccccata ccaacccac tctttcaaag ttacncagtt	900
ttagaatccc ntgaagagat tgaatctcca aagaaagtag catgtcatcc aatgccatat	960
ctttatgcag tttatttctg tcaactttgat gccactgaga ttaaagcttt caaactccgt	1020
ttagttgggtg atgttacggg agataagggtg gatgctgttg ttctttgcca tatggatact	1080
tcaggttgga gctctgatca tgtcgttttt cgcgtgcttg gtattaagca aggaaacact	1140
gtttgccatg tattttctca aggtaatctt gtttggtatta atcagccatc ggatatcgct	1200
gccggtgcca tataagtgtt gaactgttcg atgtagcact catttgccac tacgtatcga	1260
gacottatcn caatataagt atttaagagc tagtcttatg ttcactaggt ttcattggtg	1320
ttcgttaatg gtgtgncttt ctatctatat taagtatcaa gtaattaagc aat	1373

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<210> 42
<211> 1212
<212> DNA
<213> *Gossypium hirsutum*

<220>
<221> misc_feature
<222> (895)..(895)
<223> n = unknown

<220>
<221> misc_feature
<222> (911)..(911)
<223> n = unknown

<400> 42
tgctctcaga atcaaaggaa atgggtttttc aattcaattt tccagttctt ctattatgtc 60
ttatgttttt aatgtgtggc agaggcaatg cagtaaggga tttggaaggg aaacatgatt 120
ttgaaagcca tggcagagac gacgaagtgg agagttttaga tgacaagtac gttagcgctt 180
actttcatca aacttttgat tctgcaaatac actttgatgg aggtgatgaa gtgaagaatt 240
tagaagacaa atattcaacg gcttacttcc acaaatcggt agattctgga aaccatggca 300
gagatgacaa agcaaagata ttggaagaca agtatgctac tgcgtacttc cacaagactt 360
ctgtttttga aaaccatggt gaagggtgaca aattaaagag tttggaagat aaatattccg 420
cggcttactt tcacaacaca caatcttcca aaatgatgaa ggatcacac atggaacatc 480
accaccatta ccataaccat gttgaaagtg cagagatagg cttgttcacc attgatgaac 540
tacatacctt taacgtaggg aagaaattac ccatcttttt cccaataaaa aaccactctc 600
tttaccctcc tttattgcct aaacaaattg ctgacaccat ccctttttca tctttccaag 660
tttctaatat tctacgattc ttctcagttt ctccggactc ccccaaaggc aaaagctggt 720
caagatacct tcgcaaaatg cgaactcgga gcagcgcaag ggggagacc aaaatctggg 780
ctacctcttt aaaatcttta catgggtttc taagcatgca tttgggcccc atgttgattt 840
caagttcata agccaaggca tcccccata ccaacccac tctttcaaag ttacncagtt 900
ttagaatccc ntgaagagat tgaatctcca aagaaagtag catgtcatcc aatgccatat 960
ctttatgcag tttatttctg tcaactttgat gccactgaga ttaaagcttt caaactccgt 1020
ttagttggtg atgttacggg agataaggtg gatgctgttg ttctttgcca tatggatact 1080
tcaggttgga gctctgatca tgtcgttttt cgcagtcttg gtattaagca aggaaacact 1140
gtttgccatg tattttctca aggtaatctt gtttggatta atcagccatc ggatatcgct 1200

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gccggtgcc ta 1212

<210> 43

<211> 1024

<212> DNA

<213> *Gossypium hirsutum*

<400> 43

gtataacaga ggcagaatcg accggcataa aaataaaaat gggaggctgg gcaatcgag 60
 tgcattggtg tgctggtgtt caccctaatc tccctagtga aaggcaagag gaagctgtgc 120
 tactcctcaa tcgttgccct gatattggaa tctgtgcttt ttgttctaac ctttccggca 180
 ttgactgaca tgaacttgta ttgagggaat ttgaacggat cctttgctta attccgggag 240
 tggatcgga cttacggata aaggacgga ggaaatggaa acttgcttta tggatggacc 300
 gaacagacca tgcggtgctg tttcgggtaa acgacatgga agaatccgat atctcttgc 360
 cgacttgaaa tggataaaac accacattca tctttgggtt ttgccggcgc cgattatatt 420
 gcgaggaaac aggggtgtga gttggtggac aatgaatatt tcattacaga atacaatgtg 480
 gggatgctta agttaacaaa agaagcacac tcaatcctgt actattaccg tatcctaacc 540
 ctccaccct gcggaggcag cgcagacatg gaaaatcgat tacgaatgaa ctggttacca 600
 atctttctct acatcatata aacagtgggt cgagtgcac catacaaaca atgtcattgc 660
 tctgccgcta cttgcaccgg tggattaatg aacattatga ccggaaagat tggtgactcg 720
 ccgctgattg gttcagagac ttatgcttgt gacttattgg ctgtttatgt accggtgaat 780
 gtgaagccat tatgctaagc actttggcta cggaagtagc agcgtgatgg aatataaatg 840
 gttgaatctt cctgaagctg tggatatgtg attaaactag actatgtgaa ggcaaagctg 900
 gtctattgcc tgcctatat gggaagtgt tggggctgaa tactactggt atgatatggt 960
 tggctactga agatggatta tggaaagtgt tgtctgcaaa ttgatgttag cttagatgct 1020
 ggtc 1024

<210> 44

<211> 795

<212> DNA

<213> *Gossypium hirsutum*

<400> 44

gtataacaga ggcagaatcg accggcataa aaataaaaat gggaggctgg gcaatcgag 60
 tgcattggtg tgctggtgtt caccctaatc tccctagtga aaggcaagag gaagctgtgc 120

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tactcctcaa tcgttgccctt gatattggaa tctgtgcttt ttgttctaac ctttccggca 180
ttgaactgaca tgaacttgta ttgaggggaat ttgaacggat cctttgctta attccgggcg 240
tggatcggca cttacggata aagggacgga ggaaatggaa acttgcttta tggatggacc 300
gaacagacca tgcggtgctg tttcgggtaa acgacatgga agaatccgat atctcttgct 360
cgacttgaaa tggataaaac accacattca tctttgggtt ttgccggcgc cgattatatt 420
gcgaggaaac aggggtgtgga gttggtggac aatgaatatt tcattacaga atacaatgtg 480
gggatgctta agttaacaaa agaagcacac tcaatcctgt actattaccg taccctaacc 540
ctcaccacct gcggaggcag cgcagacatg gaaaatcgat tacgaatgaa ctggttacca 600
atctttctct acatcatata aacagtgggt cgagtcgcac catacaaaca atgtcattgc 660
tctgccgcta cttgcaccgg tggattaatg aacattatga ccggaaagat tggtgactcg 720
ccgctgattg gttcagagac ttatgcttgt gacttattgg ctgtttatgt accggtgaat 780
gtgaagccat tatgc 795

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<210> 45
<211> 989
<212> DNA
<213> Gossypium hirsutum

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<400> 45
accatacact ccaagacccc aaccattaac cgcacaagaa gaatcggatc ttgaattggc 60
acaccaaaga ctgttaaaac tttgccaaaa tgcgcgcagt acaacgttcc ttttaaccatt 120
gatgccgagg acacgtcgat tcaacccgcc atcgattact tcacgtactc tcggccatca 180
tgtatacaaa gatgataacc ccattgtcta cggcacgatg caagcttact tgaaagacgc 240
gagggagcgg ctgtttaaca cggcgaggac ggccggagaag ctggggattc atatgggggtt 300
taagctggtg agaggcgctt acatgtcgag cgaaaccaag ttggcttctt ccttaggggtt 360
cgattcgccg gttcacaaca ccattcaaga caccatgct tgtttcaatg attgtgcttc 420
gtttatgatt gagaagattg ctgatgggta tggcggactc gttctcgcaa ctcataatct 480
tgagtcaggg aaattggcag catcgaaaagc acgaaattta ggaattgaga aggggaatca 540
aaagcttgaa tttgcacagt tatatggaat gtcggaagcg ctgtcgattg gattgagaaa 600
cgcaggggtt caagttagca aatacttacc ctatggacca gttgatatgg taatgccata 660
ccttttaagg agagccgaag aaaatagagg actcttatca acttcaagcc ttgatagaac 720
tctcatgggg aaggagttga agagaagatt-aaagagcctg caatttgcga agccagagat 780

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ggcagcttca gcagcaggta gcatgaagat agaaatagga acgccataaa tgaggttttg 840
attcatagat ggtttgggat gggcaatttt tgccaacaat gtagaattat gaaaaaaaaa 900
taacaatcat tgtaacgttt gggcatttgt cccatgtcaa ttattatttg cattagaaat 960
tgaatttttt tctttatttt tgaaaaaaaa 989

<210> 46
<211> 410
<212> DNA
<213> *Gossypium arboreum*

<400> 46
atcaaggctg ccgtaatgtg caataatgct tgaccaaaga tgatataaaa aaagggaaaa 60
gagaagaaaa ggtgttcgtc cgaaaacaaa ttaacgatt aaagaagtca agagcgcacc 120
tttcaattca tcctttgcgg tcatggtgtt ttgtaagaag gcaaaatcac caagcctgca 180
aggatagtag gttcgggaat tgactttgcc aaagagattt taatattaga tatgttggga 240
gaactcccca ttttgtgtag gctaagagtt caatgtagga gtggacttta tactagtcta 300
atttcttttc agtttcatgt gttattgttg aagcattagt tattttggac ttattcctcc 360
attaacaaac atttgттаат ttctgcttaa aaaaaaaaaa aaaaaaaaaa 410

<210> 47
<211> 665
<212> DNA
<213> *Gossypium arboreum*

<220>
<221> misc_feature
<222> (19)..(19)
<223> n = unknown

<220>
<221> misc_feature
<222> (112)..(112)
<223> n = unknown

<400> 47
attacaccct tttcatttnt agatcacatc ataagaagac tggggttgaa aaaccccacc 60
tcccatggga gtttcttaag cgatgtgagc gtctoctcct ctgtgtaatc tntgattcaa 120
gatccatcca ttatcttccc tctgtattgg ctactgcaac catgatgcac gtcatagacc 180
aagttgagct tttcaatccc attgactacc aaaatcagct gctgagtgtt cttaaaatta 240
gcaaggaaaa agtaaacgat tgttacaagc tcatccttga tgtatcaaca agaccccagg 300

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cccaaggcaa tgggtggtgca tgtaagagga aggtggagga gaggggttcct agcagcccta 360
gtggagtgat tgatgctgca tttggcagtg atagctcgaa cgattcgtgg ggcacggtgt 420
ccttatcgcc tgagcagcag ccacctttta agaagagcag agccaagag caagtaatgc 480
gtttgccatc actcaaccga gtctttgtag acattgttgg cagcccttct taattatatc 540
tcccttctct ctctccctcg ctctctccat ctctttcttt gtcccaaaaa gatctatatt 600
tattatgctt atgttcactt ttggttcaag gaatcaaag ttaagttaaa aaaaaaaaaa 660
aaaaa 665

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<210> 48
<211> 626
<212> DNA
<213> Gossypium hirsutum

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<220>
<221> misc_feature
<222> (581)..(581)
<223> n = unknown

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<400> 48
cttgtttcta tctgtatata accaaggga ttagacaccc gttcagttga aagagttcag 60
ctgaacaccc caaagatggc caaccacacc gttacctttc tccctaaact atccattgaa 120
gctattcaga cagtgactcc gatgaggata actgaaccac gacagactcg acaagtattg 180
gcaggggagc ttgtaggacc cgggattttc caaaggtgtt tgaacgtggt ccagtactac 240
atgaaggaga aagaagaaga ctctggttgg ttactggctg ggtggatcaa ggaaacactt 300
gggagagctt tacatgagca accaatgatt tctggtcgtc ttcggaaagg ggaacgaaac 360
gatggagaat tggagattgt ttccaatgac tgcggcatta gactcattga ggcaaggatt 420
cagatgaatc tgctggattt tcttgatttg aaacaaaggg aagatgctga agctcagctt 480
gttttctgga aagatattga tgagcaaaac ccacagttct cccactctt ttatgttcag 540
gttactaatt tccagtgtgg tggatattca attgggatta nctgcagtat tcttctggca 600
gatcttttgt taatgaaaga attcct 626

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<210> 49
<211> 644
<212> DNA
<213> Gossypium arboreum

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<220>

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<221> misc_feature
 <222> (585)..(585)
 <223> n = unknown

<400> 49
 actgagttaa gagtttcaat tcttctactt attatagtta aatatcatat atggccaagt 60
 acttgaatgt tgtgcttggt cttgctctag tagtggttca agctactgca aggaatgtgc 120
 ctagcgatgc tgctgggtctc aatgaccaaa agaacctcct cacatacggg gccattggcg 180
 gctactctgg catgggttca aatggcatgc caatgggtgg agttgggagt gttggtggta 240
 tgactggcct tgggtggtaca ggtgggatgg gcgccatggg aggtggtggg tatggaggtg 300
 ggccctggcgc tgggtggtgga aatgaagggtg gtgttggtcat tggcaatgcg cctggtgtcg 360
 tccactttcc ttgaactttg ctggatgggt aaaattttta agcaactagt ttcttgaact 420
 ttgctggagg ggtttaaatt ttaaagcaac tagtctaact tacgttaaag agtaatatta 480
 aagttgctct agagtgtgaa atgttttggg ttatgtgata ggtccatctt tatttttttt 540
 atgtcgagtt ttcttttggt ttgtaatcct tcattgtcgt ggttntgtag ccgacttaaa 600
 gtaaataaat tgattttgac aagttaaaaa aaaaaaaaaa acaa 644

<210> 50
 <211> 677
 <212> DNA
 <213> *Gossypium arboreum*

<400> 50
 gacactcaaa tataagtagc aaactaacct atgggttatt tggctgattt tgaagggttc 60
 atgggtgtatt ttggtgcgtg tctgttgaga atccgagttg ttgtcccgtg gtattagctt 120
 ctctgtcttg ctggttgcca ttgggcagtt gtgaggtcta taatcaagt attcaaggaa 180
 accgttagct tcattttact tggagaagac aaagaagcta ttgttgtgct ggacttggtc 240
 ttgctttttc tctttgtatg gtgtgggtta tggtttgtat tatgagtttt atatgaatag 300
 aactttgaat ttggtgagaa aattaagaat gagcttggga ggagcagaag tgttgatggc 360
 aatagcaggg ttgtgggcag tggttttgag gccattgatg ataaggtatg ccgtagagat 420
 gagtcaaatg attggaattt ccgttaggag agttttcagt aatcctcttt ccccttccgt 480
 atcgtttttt tatttggtact gatatagaaa ttctatgaaa tgagcacaat atgagacacc 540
 attttttgct agccaagaag ttagatgagt ggtagacttt ggtttaagct tatcataatt 600
 gaaattgtta gactgtaacc cttttgtctc ctttctctaa tttcaaatcc aaattcccat 660

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caataaaaaa aaaaaaa

677

<210> 51
 <211> 692
 <212> DNA
 <213> *Gossypium arboreum*

<400> 51
 ccctacattt ttacgctctg gcacagaaga agaaagccct acctatataa tattacatgc 60
 aaatataatg gtatcattag acgttatgac atcgtataat gtaggaggca tctgctacta 120
 acatttgga gatgaaatta ttacgaaga acaatgggat attttctgta tttgtttatc 180
 atatctgggtt acttcaaagc actggttgca acaacagaaa tcaggtttct gctcttcatt 240
 gccattgcta gggaggacca taaacaaacc attcttgga gatgggaaac cctcttgcca 300
 ttaatgccag aacagtttgc agatattaga agcacttgaa aaataaagct gatacagata 360
 attccatag taattctact ataatctctt tctctttgtt tctgtaatca aattccagta 420
 agagcattac tatagtactc atgatttggt gattcttcta gtgaattgga gagtttagac 480
 cctcttgaga agacagtga tgtagaactt ggtgcctctt ggatgggaag gctgatgttt 540
 tcctaaaaga aggtcgtttt ttcattgtgt gcaatgttcg ccatgtataa agagtctgaa 600
 acaatggtga gactctctcc ttgaacttga gaatgatgaa gaaaagtaat ctgtaagcta 660
 tcaaaatcat tataacagct gctaagtccc ac 692

<210> 52
 <211> 788
 <212> DNA
 <213> *Gossypium arboreum*

<400> 52
 aagatgatga aaaggggttt tattgttttg gccttgatgg tggttttcgc cgcgacggtg 60
 gttacggggg ctgacgagag tgggttagcg aatgagtga gcaaagattt ccagagcgtg 120
 atgacttgct taagctttgc tcaaggaaaa gcagcgtcgc cgtcgaagga gtgttgtaat 180
 tcagtggcgg ggattaaaga gaataaacc aaatgtttgt gttatatattt gcaacaaaca 240
 caaacttccg gtgctcaaaa tctcaaaagc ttaggtgttc aagaagataa gctgtttcag 300
 ttaccgtcgg cttgtcaatt gaagaacgct agcgtcagtg attgcccata gcttcttggg 360
 ttatctccga gtcaccaga cgcgcgcac ttcaccaact cctcctctaa agcaacgaca 420
 cccagtactt caacaaccac cgcaacgccc tcttccgagg ccgataaaac cgatagcaaa 480
 tccagtggaa tcaagcttgg tccccacttc gtcggttcca cggcggcgct actgggtgct 540

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acagcggccg tgtttttcct tgtattccca gctggatttg cttcaatagt ttaggggttc 600
 tgcacgggat ttcgagattt ggaggtttat ttattgttga agtccatttg tttttaaacg 660
 gtctcagaaa aaaaatggac tgagttgaca attatgatga tttttcgctt attcttgctt 720
 tttcttattt gattaaacgt ccctttgaaa taaaacttag tttattttcc cagctttccc 780
 cctgggaa 788

<210> 53
 <211> 634
 <212> DNA
 <213> *Gossypium arboreum*

<400> 53
 caaacactag tagaaggttt agttttacaa acatggctag ttccggtgtc cttaagttgg 60
 tttccatgat tctcatcgtg tgcacgacgg tgatgagtgc acccaaggca gccaaagccg 120
 ccatcacgtg cagcgacgtg gtgaaccact tgatcccgtg cttgtcctac gtacaaaacg 180
 gcggtacacc cgctgctgca tgctgcagtg gggtaaaagc actctacggc gaggtcaga 240
 cctccccgga ccgcaaaaac gtgtgcaagt gcatcaaadc gcggtgaac ggaattccgt 300
 acaccagcaa taacctcaat ctgcgacgg gcctacctgc taaatgtggt ctccaactcc 360
 cttacagcat cagccccctc actgactgca acaagggtgca gtgaggttga tgatgatgat 420
 atggaagaag gagtggaaga aggttccagc tcagctagat aaagtagcta gctaaggtta 480
 aataagctgt gttggtgtgt tgttttttag aaaattccat atataatcgg ggaaagaaaa 540
 aaaaaataga aaatgtactt tgtaactgta tttcgtatgt gatatatata atgtatcgta 600
 atctttaatt ttttaaaaaa aaaaaaaaaa aaaa 634

<210> 54
 <211> 884
 <212> DNA
 <213> *Gossypium arboreum*

<400> 54
 cagtgaact caaatccatg aagacccgaa tgtggctctt ttctttctgg aaaaggatat 60
 gcaccccggt gcaacaatga gcctacattt cactgaaaat acagagaaat cagctttctt 120
 accttatcaa actgccccaa aaataccgtt ttcactctgac aagttgccag aaattttcaa 180
 caagttttca gtgaaacctg gatcactgaa ggcagagatg atgaagaaca caattaagga 240
 gtgcgaacag ccagcgattg aaggagagga aaaatattgt gcaacctcac tggagtcaat 300

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gattgactat agcatttcca aactagggaa agttgatcag gcagtctcaa cagaagtgga 360
aaaacaaacc ccaacgcagc agtatacaat aacagctgga gtgcagaaga tgacaaatgg 420
caaagctgta gtgtgccaca agcagaatta tgcataatgct gtcttctatt gtcataaatc 480
agaaacaaca agggccttaca tgggttccttt agaggggtgct gacggaacaa aagccaaagc 540
agtagcagtc tgccacacag atacatcagc atggaaccca aagcatttgg cttttcaagt 600
cctaaaagtt gagccaggaa ccatttcctgt ctgccatttc cttcctcggg atcacattgt 660
ttgggtccct aagtaaaagt cctgaagagt agattcatac actatagttt cttcacagtg 720
tgcattaaaa cagcttaaag caatatccag tttgttctat aataatatac ccacaagttt 780
agtcattgtaa aatctatcca tgaatcatgt tcttagtaat ggataaaatg atattacttt 840
ctgtatcaca aggggtttggt gataaatgta ttagtatttt aagt 884

<210> 55
<211> 690
<212> DNA
<213> *Gossypium arboreum*

<400> 55
ggagtgtctt cagaatcaaa ggaaatggtt tttcaattca attttccagt tcttctatta 60
tgtcttatgt ttttaatgtg tggcagaggc aatgcagtaa gggatttggg agggaaacat 120
gattttgaaa gccatggcag agacgacgaa gtggagagtt tagatgacaa gtacgttagc 180
gcttactttc atcaaacttt tgattctgca aatcactttg atggaggtga tgaagtgaag 240
aatttagaag acaaatattc aacggcttac ttccacaaat cgtagattc tggaaaccat 300
ggaagagatg acaaagcaaa gatattggaa gacaagtatg ctactgcgta cttccacaag 360
acttctgttt ttgaaaacca tgggtgaagg gacaaattaa agagtttggg agataaatat 420
tccgcggctt actttcacaa cacacaatct tccaaaatga tgaaggatca caacatggaa 480
catcaccacc attaccataa ccattgtgaa agtgcagaga taggcttggt caccattgat 540
gaactacata cctttaacgt agggaagaaa ttacccatct ttttcccaat aaaaaaccac 600
tctctttacc ctcttttatt gcctaaacaa attgctgaca ccatcccttt ttcattctcc 660
caagtttcta atattctacg attctttctca 690

<210> 56
<211> 653
<212> DNA
<213> *Gossypium arboreum*

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<400> 56
 ggcacgagca gaatgaccgg cagagaataa aatgggagggc tgggcaatcg cagtgcacgg 60
 tgggtgctggt gtagacccaa atctccctaa tgaaaggcaa gaggaagcta aaagactcct 120
 cactcgttgc cttgatattg gaatctctgc tcttcgttct aacctctccg ccattgacgt 180
 cgttgaactt gtcgtgaggg aattggaaac ggatcctttg tttaattccg ggcgtggatc 240
 agcacttacg gagaaaggga cgggtggaaat ggaagctagt attatggatg gaccgaagag 300
 acgatgcggt gctgtttcgg gtttaacgac ggtgaagaat ccgatatctc ttgctcgact 360
 tgttatggat aaaacaccac attcgtatctt gggttttgcc ggccgcaag agtttgcgag 420
 gaaacagggt gtggagttgg tggacaatga atatttcatt acagaagaca atgtggggat 480
 gcttaagtta gcaaaagaag caaactcaat cctgttcgat taccgtatcc caaccctcac 540
 cacctgcggt ggcggcgag ccatggaaaa tcaattacaa atgaacggct taccaatcag 600
 tctctacgcc ccagaaacag taggctgcgt tgtagttgac aaacaggtca ttg 653

<210> 57
 <211> 612
 <212> DNA
 <213> *Gossypium arboreum*

<400> 57
 tttttttttt tttttcataa ttctacattg ttggcaaaaa ttgcccatcc caaaccatct 60
 atgaatcaaa acctcactta tggggtgcct atttctatct tcatgctacc tgctgctgta 120
 gctgccatct ctggcttcgc aaattgcagg ctctttaatc ttctcttcaa ctccctcccc 180
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51/54

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52/54

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53/54

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54/54

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22